RTCA- 228
Summary of Plenary #42 RTCA Paper No. 171-24/SC228-119
HYBRID MEETING
9:00 AM EST, July 19, 2024

The forty-second plenary of RTCA Special Committee 228 was called to order by SC-228 Co-Chair, Jim Williams at 9:02 AM EST on July 19, 2024 at RTCA headquarters in Washington, D.C. and using WebEx audio and web conferencing.

1. Agenda Item #1- Call to Order: Welcome
    1.1. Jim Williams, co-chair called the meeting to order and stated the purpose for today's plenary through a review of the published and proposed agendas.

2. Agenda Item #2- Review RTCA meeting guidelines
    2.1. Brandi Teel, RTCA Program Director, welcomed everyone.
    2.2. Brandi reviewed the Anti-Trust Policy, the Proprietary Policy and the RTCA Committee Participation Membership Policy.
    2.3. Brandi also briefed some meeting tips to ensure a successful virtual meeting.
    2.4. Brandi then briefed the online self-rostering feature. Thank you to all who self-roster!

3. Agenda Item #3- Opening Remarks / Introductions
    3.1. Went around the room and phone, and introduced participants and companies.
        3.1.1. 11 in person, ~44 online.
    3.2. Participants on the phone stated their names and organizations, and attendance is noted in Appendix A.
    3.3. Brandon S. gave an overview of the SC-228 leadership team.

4. Agenda Item #4- Review and Approve the agenda
    4.1. No walk on agenda items.
    4.2. Brandon Suarez moved to approve agenda, Jim Williams seconded. No objections, agenda approved.

5. Agenda Item #5 – EUROCAE WG-105 Update
    5.1. Maurizio Goiak and Alex Florin were unable to provide an update.

6. Agenda Item #6 - Approve meeting minutes from Plenary Meeting #41
    6.1. Greg Moran, SC-228 secretary, stated no comments were received for update/revision.
    6.2. Greg Moran called for a motion to approve the minutes. Steven Van Trees moved to approve the minutes. Andrew Videmsek seconded. No objections, minutes approved.

7. Agenda Item #7 - Schedule review – high level overview of upcoming document work that remains for 2024-2025
    7.1. Greg Moran provided an overview of the SC-228 schedule from the recently approved terms of reference 18.
    7.2. Brandon Suarez provided discussion of SC-147, TSO-C211a, TSO-C212a impacts to the schedule for DO-365D, DO-365C Change 1, DO-366B, respectively. Schedule dependences are noted for DO-362B (FCC C-band interim rule) and DO-377B report (FAA Part 146 NRPM).
    7.3. The schedule will be updated based on the plenary presentations and uploaded to the schedule folder on AerOpus.

8. Agenda Item #8 – WG-1 Update
    8.1. Fabrice Kunzi provided the update for WG-1.
    8.2. M:N multi-UAS operations white paper
        8.2.1. RAC resolution proceeding.
        8.2.2. White paper will extend beyond SC-228, RTCA considering how to proceed.
    8.3. Surface hazard avoidance MASPS
        8.3.1. Automatic taxi OSED comment resolution changes complete, additional changes in work based on WG-1.10 & WG-4. OSA and OPA proceeding.
    8.4. DO-366B for tailored lower power ATAR, intended to enter FRAC fall F2F meeting.
        8.4.1. Rain attenuation upgrade, Appendix B, Appendix K (70% complete).
    8.5. DO-365D for lower power ATAR, ACARS Xr functionality, errata.
        8.5.1. Authors and technical editor identified for text changes, significant work remaining for ACAS Xr.
        8.5.2. DO-365C change 1 and DO-365D schedule change as discussed previously.
    8.6. GNSS validation white paper proposing operational concepts and validation requirements.
        8.6.1. FAA direction requested for what data is allowed in certified ACAS systems.

9. Agenda Item #9 – WG-2 Update
    9.1. Amelia Mahan provided the briefing for WG-2.
    9.2. WG-2.4 UHF ARS MOPS DO-406
        9.2.1. Amelia called for a motion to exit FRAC. Ally Ferguson proposed motion, Jim Williams seconded. No objections, motion approved.
    9.3. RTCA noted the SC-228 request to review proposed changes to the MOPS drafting guide to alleviate conflicting language.
    9.4. WG-2.7 RTCA report on use of DO-377B as MOC
    9.5. WG-2.6 C band update & EUROCAE coordination

      9.5.1. Agreement reached on definition of emission mask compatible with international standards & 130ms TDD frame.

      9.5.2. Adjustments needed to DO-365B needed to accommodate FCC rule-making on non-network access

      9.5.3. Network support services deferred to DO-365C after FCC rule-making.

9.6. WG-2.2 Cellular MOPS making progress on comments from April RAC.

      9.6.1. Flight trial validation is a major open item to resolve, pending review of existing data.

10. Agenda Item #10 - WG-4 Update

    10.1. Matt Harris presented the update for WG-4.

    10.2. Navigation automatic taxi MASPS is running behind; schedule risk noted due to lack of resources.

    10.3. Discussed Automatic Taxi Navigation System (ATNS) functional elements.

    10.4. Discussed notional ATNS functional interface outputs to the Flight Control System (FCS) were discussed. Example functional interface outputs may include aircraft state, speed, restrictions, cross-path deviation, distance to upcoming waypoints (e.g., stop/speed changes, turns), and upcoming turn information (e.g., total heading change). It is important to discuss and coordinate the functional interface at least between WG-4 and WG-1, such that a consistent functional interface could also be used between the Surface Hazard Avoidance System (SHAS) and the FCS.

    10.5. There is a small community of practice researching auto navigation, but not nearly the size of DAA and C2 link.

11. Agenda Item #11 – GAR Report: FAA MASPS/MOPS Usage Update

    11.1. Steve Van Trees presented an update.

    11.2. FAA is addressing changes to regulatory structure for next phase of UAS implementation, part 108 normalization of UAS BVLOS operations and part 146 third-party service providers.

    11.3. FAA released draft policy on FAA engagement on highly automated aircraft.

    11.4. TSOA activity

      11.4.1.   GA-ASI application for TSO-C211/TSO-C212 with WCB (AIR-777)

      11.4.2.   AIR-626C action on TSO-C211a

      11.4.3.   TSO-C213a

    11.5.   Guidance material

      11.5.1.   AIR working with applicants and stakeholders for UAS C2 link MOC: part 108 approvals for lower-risk DO-377B operations, part 146 approvals for service providers, DO-377A for higher-risk operations via issue papers

      11.5.2.   AIR will work on new ideas to improve MOC: SC-228 intending to develop Gm for mapping of DO-377B safety requirements.

12. Agenda Item #12 – New Business

12.1. Jim Williams asked if there was any additional new business, and there was not.
12.2. Meeting look ahead.
    12.2.1. November 2024 F2F is November 5-8, 2024. SC-228 is evaluating a remote location due to the U.S. election taking place that week.
    12.2.2. January 2025 F2F is January 28-31, 2025 in RTCA headquarters.

13. Agenda Item #13 – Adjourn
13.1. Jim Williams called for a motion to adjourn the meeting. Steve Van Trees moved to adjourn, Andrew Videmsek seconded. Jim Williams adjourned the meeting at 10:48 AM ET.

SC-228 Leadership

Jim Williams	SC-228 Co-Chair	Aura Network Systems
Brandon Suarez	SC 228 Co-Chair	Reliable Robotics
Katie Edwards	SC-228 Secretary	Boeing
Brandi Teel	SC-228 Program Director	RTCA
Don Walker	SC-228 WG1 for DAA, Co-Group Lead	A3 by Airbus
Fabrice Kunzi	SC-228 WG1 for DAA, Co-Group Lead	Boeing/Skygrid
<vacant>	SC-228 WG1 for DAA, Secretary	
Steve Van Trees	SC-228 GAR, WG2 for C2, Co-Group Lead	FAA, AIR-130
Amelia Mahan	SC-228 WG2 for C2, Co-Group Lead	Amazon Prime Air
<vacant>	SC-228 WG2 for C2, Secretary	
Joel Wichgers	SC-228 WG4 for Navigation, Co-Group Lead	Collins Aerospace
Matt Harris	SC-228 WG4 for Navigation, Co-Group Lead	Boeing
Andrew Videmsek	SC-228 WG4 for Navigation, Secretary	Reliable Robotics

Appendix A- List of SC-228 Plenary Participants

ATTENDEES

Company	Name
A3 by Airbus Group	Donald Walker
Adaptive Aerospace Group	Devin Jack
Air Line Pilots Association (ALPA)	Mark Reed
Amazon Prime Air	Amelia Mahan
Aura Network Systems	Ally Ferguson
	Jim Williams
Bombardier Aerospace	Hagop Kazarian
Collins Aerospace	Randy Jacobson
	Mike McDowell
	Joel Wichgers
Federal Aviation Administration (FAA)	Nick Demidovich
	Jose Fuentes
	Matt Haskin
	Ruth Hirt
	Ravi Jain
	Raymond Johnston
	Jennifer Ledford
	Ray Mei
	Jeff Meyers
	Mohammed Rahman
	Chris Swider
	Stephen Van Trees
Federal Communications Commission (FCC)	Kambiz Rahnavardy
	Peter Trachtenberg
General Atomics Aeronautical Systems, Inc.	Tim Bleakley
	Joey Neptune
General Aviation Manufacturers Association	Jens Hennig
GXA Consulting	Bob Lee
Honeywell International, Inc.	Sara Bauman
INMARSAT	Kristen Mineck
Iridium Satellite LLC	Joseph Darden
MIT Lincoln Laboratory	Randal Guendel
NASA	Aaron Dutle
	Andrew Guion
National Oceanic and Atmospheric Administration (NOAA)	John Coffey

NextNav	Cristina Seibert
Thurling Aero Consulting, LLC	Andy Thurling
Northrop Grumman Corporation	Lance King
NUAIR	Lee Nguyen
Reliable Robotics	Brandon Suarez
	Andrew Videmsek
SkyGrid	Holly Hughes
Supernal	Jamie Lee
Technology Providers, Inc.	Marvin Hammond
The Boeing Company	Matt Harris
	Fabrice Kunzi
	Sergiu Marzac
	Greg Moran
Transport Canada	Craig Bloch-Hansen
uAvionix	Jim Davis
United States Armed Forces	MSgt Arnold Powell
Wisk	Garv Stephenson